United States Senate

WASHINGTON, DC 20510

July 11, 2001

Dear Colleague:

We would like to alert you to an important new report, **"Cutting Carbon Emissions at a Profit: Opportunities for the U.S.,"** released on May 3, 2001 by the International Project for Sustainable Energy Paths (IPSEP; http://www.ipsep.org). This study is the first to address how the U.S. can profitably reduce its greenhouse gas emissions by integrating several cost-cutting policy options into a coherent least-cost framework. It identifies and corrects shortcomings in recent modeling studies on the economics of reducing greenhouse gas emissions in the U.S. Each of those studies is shown to omit several major cost-reducing policies and effects, resulting in cost estimates that are far too pessimistic.

This study introduces no new models and relies on established, peer-reviewed methodologies used in the major U.S. assessments to date. The principal author is Dr. Florentin Krause, Director of IPSEP. As co-author of the Second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) Working Group III and former staff scientist of the Lawrence Berkeley National Laboratory, he is eminently qualified to carry out this economic reassessment. His main co-author is Dr. Stephen DeCanio, Professor of Economics at the University of California in Santa Barbara. Dr. DeCanio contributed to the recent U.S. Department of Energy's study *Scenarios for a Clean Energy Future* and served as a Senior Staff Economist at the Council of Economic Advisers during the second Reagan Administration.

The analysis integrates three domestic policies – a national carbon cap and permit trading program, productivity-enhancing market reforms and technology programs, and recycling of permit auction revenues into economically advantageous tax cuts – which are then combined with international emissions allowance trading. One of the principle findings this economic reassessment leads to is that the U.S. could meet emission reduction targets as set forth in the Kyoto Protocol by 2010 and exceed them by 2020 while increasing economic output from baseline growth projections. The notion that emissions reduction targets such as those of the Kyoto Protocol are unavoidably costly or unfair is the result of outdated modeling assessments. In addition, a strong synergy exists between a national energy policy aimed at safeguarding the economy and a least-cost policy aimed at slowing climate change. By reducing consumption of oil and natural gas relative to rising business-as-usual trends, a climate policy would increase our national energy security and help protect the U.S. against future energy price shocks.

Climate change will be one of the greatest challenges our country will face in this century. Negative economic impacts are often cited as the reason the U.S. should not implement domestic greenhouse gas reductions. IPSEP's new economic analysis suggests that the U.S. has domestic policy options for reducing greenhouse gases that will benefit our nation economically while

protecting the global environment. As we in Congress begin to tackle this serious global problem we urge you to give this study your careful consideration. Integrated economic analysis such as contained in this report is needed to better inform future U.S. climate policy.

A brief summary of the key points from this study is attached. For any questions concerning the report please contact Dr. Florentin Krause at 510-525-7530, e-mail ipsep@igc.org, or Dr. Stephen DeCanio at 805-893-3130, e-mail decanio@econ.ucsb.edu. An electronic copy of the study can be obtained at www.ipsep.org.

Sincerely,

Cutting Carbon Emissions at a Profit: Opportunities for the U.S.

Florentin Krause, Steve DeCanio, and Paul Baer
International Project for Sustainable Energy Paths

This report identifies and corrects shortcomings in recent modeling studies on the economics of reducing greenhouse gas emissions in the U.S. The major assessments of the Kyoto Protocol - by the U.S. Energy Information Administration, the White House Council of Economic Advisers, the U.S. Department of Energy Interlaboratory Working Group, and the Stanford Energy Modeling Forum - are found to be seriously incomplete. Each study is shown to omit one or several of four major cost-reducing policy options, resulting in cost estimates that are far too pessimistic.

The present study is the first to integrate all cost-cutting policy options into a coherent least-cost policy framework. Three domestic policies – a national carbon cap and permit trading program, productivity-enhancing market reforms and technology programs, and recycling of permit auction revenues into economically advantageous tax cuts – are combined with international emission allowance trading. In analyzing this integrated least-cost approach, the present study introduces no new models. It relies on established, peer-reviewed methodologies used in the major U.S. assessments to date. This reassessment leads to the following principal findings:

- The U.S. could meet emission reduction targets as set forth in the Kyoto Protocol by 2010 and exceed them by 2020 while increasing economic output from baseline growth projections. The perception that emissions reduction targets such as those of the Kyoto Protocol are unavoidably costly or unfair is the result of outdated modeling assessments.

- In 2010, an integrated least-cost strategy would produce an annual net output gain of about $50-60 billion/yr or roughly 0.5 percent of GDP. By 2020, this gain grows to $120 billion/yr or 1 percent of GDP. On a cumulative net present value basis, the U.S. would gain $250 billion by 2010 and $600 billion by 2020.

- Most of these economic gains can be achieved through a purely domestic no-regrets strategy. International trading adds some further benefits, but these are not decisive for a positive economic outcome. In addition, credits for carbon sinks and constraints on the use of Kyoto flexibility type mechanisms are of only minor significance.

- A strong synergy exists between a national energy policy aimed at safeguarding the economy and a least-cost policy aimed at slowing climate change. By reducing consumption of oil and natural gas relative to rising business-as-usual trends, a climate policy would increase our national energy security and help protect the U.S. against future energy price shocks.

- Net economic benefits can be realized in the early years of implementation and continue to grow over time. As energy-using equipment and capital stocks turn over, market, organizational, and institutional reforms have the effect of speeding up and completing the penetration of currently available, highly cost-effective energy efficiency technologies that require little or no time-consuming research, demonstration, and commercialization.

- Postponing least-cost emissions reduction policies or embarking on suboptimal policies would result in lost opportunities for the U.S. economy of $50-150 billion/yr in 2010.